Human Immunology

Official Journal of the American Society
for Histocompatibility and Immunogenetics

Volume 40, 1994

Elsevier

Human Immunology

Aims and Scope

Human Immunology offers an exchange of information and ideas centering on the immunological system of humans. Pertinent information about the analogous systems of other vertebrates, including fish, birds, and mammals, may also be appropriate. The genes of the major histocompatibility complex and of T, B, and accessory cells and their products as regulatory molecules, disease markers, receptors, or targets are relevant topics. Subdisciplines such as neuroimmunology, immunopharmacology, and developmental and reproductive immunology are also considered insofar as they provide new insights. Limited space is available for reporting technological advances. Rapid publication of newsworthy items is provided by brief reports. Topics of general concern form the basis for editorials and seminar series.

Editor in Chief
D. Bernard Amos
Department of Immunology
Duke University Medical Center
Durham, North Carolina

American Editor
Jeffrey R. Dawson
Department of Immunology
Duke University Medical Center
Durham, North Carolina

European Editor
Jon J. van Rood
Afdeling Immunohaematologie
Academisch Ziekenhuis
Leiden, The Netherlands

Editorial Board

J. R. Batchelor, *London, England*
H. Betuel, *Lyon, France*
J. G. Bodmer, *London, England*
C. Brautbar, *Jerusalem, Israel*
F. M. Brodsky, *San Francisco, California*
J. D. Capra, *Dallas, Texas*
C. B. Carpenter, *Boston, Massachusetts*
D. J. Charron, *Paris, France*
F. H. J. Claas, *Leiden, The Netherlands*
P. Cresswell, *New Haven, Connecticut*
M. Crumpton, *London, England*
S. Curtoni, *Torino, Italy*
R. Dawkins, *Perth, Australia*
L. Degos, *Paris, France*
R. J. Duquesnoy, *Pittsburgh, Pennsylvania*
D. D. Eckels, *Milwaukee, Wisconsin*
C. P. Engelfriet, *Amsterdam, The Netherlands*
H. A. Erlich, *Emeryville, California*
G. B. Ferrara, *Genoa, Italy*
T. C. Fuller, *Salt Lake City, Utah*
J. Gorski, *Milwaukee, Wisconsin*
F. C. Grumet, *Stanford, California*
J. A. Hansen, *Seattle, Washington*
G. A. Hitman, *London, England*
C. K. Hurley, *Washington, DC*
W. R. Mayr, *Vienna, Austria*
A. McMichael, *Oxford, England*
T. Mohanakumar, *St. Louis, Missouri*
E. Moller, *Stockholm, Sweden*
H. T. Orr, *Minneapolis, Minnesota*
P. Parham, *Stanford, California*
P. A. Peterson, *La Jolla, California*
H. L. Ploegh, *Cambridge, Massachusetts*
S. Radka, *Tarrytown, New York*
N. Reinsmoen, *Minneapolis, Minnesota*
M. A. Robinson, *Rockville, Maryland*
G. E. Rodey, *Atlanta, Georgia*
P. Rubinstein, *New York, New York*
F. Sanfilippo, *Baltimore, Maryland*
T. Sasazuki, *Tokyo, Japan*
D. J. Schendel, *Munich, Germany*
M. Schlesinger, *Jerusalem, Israel*
B. D. Schwartz, *St. Louis, Missouri*
S. Serjeantson, *Canberra, Australia*
S. Shaw, *Bethesda, Maryland*
P. Stastny, *Dallas, Texas*
A. Svejgaard, *Copenhagen, Denmark*
E. Thorsby, *Oslo, Norway*
R. Tosi, *Rome, Italy*
J. Trowsdale, *London, England*
K. Tsuji, *Isehara, Japan*
J. A. (Falk) Wade, *Toronto, Canada*
L. R. Weitkamp, *Rochester, New York*
E. J. Yunis, *Boston, Massachusetts*

Human Immunology

Volume 40 Contents

Number 1, May 1994

PHILIPPE SANSÉAU, AMANDA JACKSON, GABRIELE SENGER, ADRIAN KELLY, FIONA FRANCIS, DENISE SHEER, and JOHN TROWSDALE
Cloning of the Region Between *HLA-DMB* and *LMP2* in the Human Major Histocompatibility Complex 1

IDRISS DJILALI-SAIAH, SOPHIE CAILLAT-ZUCMAN, JACQUES SCHMITZ, MARIA LAISE CHAVES-VIEIRA, and JEAN-FRANÇOIS BACH
Polymorphism of Antigen Processing (TAP, LMP) and HLA Class II Genes in Celiac Disease 8

KARYL S. BARRON and MARY ANN ROBINSON
The Human T-Cell Receptor Variable Gene Segment TCRBV6S1 Has Two Null Alleles 17

DASNAYANEE CHANDANAYINGYONG, HENRY A. F. STEPHENS, LIAN FAN, MONCHAN SIRIKONG, PANPIMON LONGTA, RAPEEPUN VANGSERATTHANA, SOMBOON LEKMAK, KOMON LONGTA, SASITORN BEJRACHANDRA, and EKARAJ RUNGRUANG
HLA-DPB1 Polymorphism in the Thais of Southeast Asia 20

MARIE ALLEN, LIMIN LIU, and ULF GYLLENSTEN
A Comprehensive Polymerase Chain Reaction–Oligonucleotide Typing System for the HLA Class I *A* Locus 25

BAS L. SLIERENDREGT, NEL OTTING, MARGREET JONKER, and RONALD E. BONTROP
Gel Electrophoretic Analysis of Rhesus Macaque Major Histocompatibility Complex Class II DR Molecules 33

MOHAMED H. EL-BORAI, SANDRA D'ALFONSO, GINA MAZZOLA, and MARIA E. FASANO
A Practical Approach to HLA-DR Genomic Typing by Heteroduplex Analysis and a Selective Cleavage at Position 86 41

SHEILA DROVER, ROBERT W. KARR, XIN-TING FU, and WILLIAM H. MARSHALL
Analysis of Monoclonal Antibodies Specific for Unique and Shared Determinants on HLA-DR4 Molecules 51

ANAT ROITBERG-TAMBUR, ADAM FRIEDMANN, CAMPBELL S. WITT, SHLOMIT EISENBERG, W. AUBREY SOSKOLNE, LIOR SHAPIRA, MICHAEL N. SELA, SHOSHANA BATTAT, CILLY SAFIRMAN, LEONTINA SHERMAN, ISAAC COHEN, and CHAIM BRAUTBAR
HLA Polymorphism in Moroccan Jewry 61

AFZAL NIKAEIN, TWYALA POOLE, RANDI FISHBECK, GUIDO ORDONEZ, LORI DOMBRAUSKY, MARVIN J. STONE, ROBERT H. COLLINS, Jr., and JOSEPH W. FAY
Characterization of Skin-Infiltrating Cells During Acute Graft-versus-Host Disease Following Bone Marrow Transplantation Using Unrelated Marrow Donors 68

8 153HI XL 1573
2/95 31249-201

Human Immunology is cited in *Biological Abstracts, Chemical Abstracts, Current Contents (Life Sciences), Excerpta Medica, Index Medicus,* and *CABS/Current Awareness in Biological Sciences.*

Number 2, June 1994

ASHI Rose Payne Lecture
PETER PARHAM
Of Payne, Polymorphism, and Populations 77

MAHMOOD JEDDI-TEHRANI, JOHAN GRUNEWALD, VIDA HODARA, ROLAND ANDERSSON, and HANS WIGZELL
Nonrandom T-Cell Receptor Jβ Usage Pattern in Human $CD4^+$ and $CD8^+$ Peripheral T Cells 93

PENELOPE A. MOREL, HUAN J. CHANG, JOHN W. WILSON, CLAUDIA CONTE, SUSAN L. SAIDMAN, JEFFREY D. BRAY, DAVID J. TWEARDY, and THOMAS A. MEDSGER, Jr.
Severe Systemic Sclerosis with Anti-topoisomerase I Antibodies Is Associated with an HLA-DRw11 Allele 101

ELAINE F. REED, SORINA L. TUGULEA, and NICOLE SUCIU-FOCA
Influence of HLA Class I and Class II Antigens on the Peripheral T-Cell Receptor Repertoire 111

JERALD A. DONOVAN, FREDERICK D. GOLDMAN, and GARY A. KORETZKY
Restoration of CD2-Mediated Signaling by a Chimeric Membrane Protein Including the Cytoplasmic Sequence of CD45 123

DEREK MIDDLETON, GEORGE MEGAW, CELINE CULLEN, STANLEY HAWKINS, CHRISTOPHER DARKE, and DAVID A. SAVAGE
TAP1 and TAP2 Polymorphism in Multiple Sclerosis Patients 131

DAVID A. CAVAN, MICHELLE A. PENNY, KAREN H. JACOBS, M. ANN KELLY, DAVID JENKINS, CATHERINE H. MIJOVIC, CHUN CHUNG CHOW, CLIVE S. COCKRAM, BRIAN R. HAWKINS, and ANTHONY H. BARNETT
Analysis of a Chinese Population Suggests That the TNFB Gene Is Not a Susceptibility Gene for Graves' Disease 135

MAURO CONGIA, FRANCESCO CUCCA, FULVIA FRAU, ROSANNA LAMPIS, LUIGI MELIS, MARIA GRAZIA CLEMENTE, ANTONIO CAO, and STEFANO DE VIRGILIIS
A Gene Dosage Effect of the DQA1*0501/DQB1*0201 Allelic Combination Influences the Clinical Heterogeneity of Celiac Disease 138

FRANCESCO CUCCA, FULVIA FRAU, ROSANNA LAMPIS, MONICA FLORIS, LUISA ARGIOLAS, DOLORES MACIS, ANTONIO CAO, STEFANO DE VIRGILIIS, and MAURO CONGIA
HLA-DQB1*0305 and -DQB1*0304 Alleles Among Sardinians: Evolutionary and Practical Implications for Oligotyping 143

Letter to the Editor
JOS J. M. DRABBELS, JACQUELINE ANHOLTS, MARIUS J. GIPHART, ILIAS I. N. DOXIADIS, FRANS H. J. CLAAS, and WILLEM VERDUYN
Polymorphic Gloves and Histocompatibility Testing 150

Number 3, July 1994

F. CARL GRUMET, ROLAND BUELOW, HANS GROSSE-WILDE, BRITTA KUBENS, MARVIN GAROVOY, and PHILIPPE POULETTY
Report of the Second International Soluble HLA (sHLA) Workshop 153

FRANCESCO PUPPO, RICCARDO PELLICCI, SABRINA BRENCI, ARCANGELO NOCERA, NICOLA MORELLI, GIOVANNI DARDANO, MASSIMO BERTOCCHI, ADELMO ANTONUCCI, MASSIMO GHIO, MARCO SCUDELETTI, SERGIO BAROCCI, UMBERTO VALENTE, and FRANCESCO INDIVERI
HLA Class-I-Soluble Antigen Serum Levels in Liver Transplantation: A Predictor Marker of Acute Rejection 166

MASAO HAGIHARA, TATSUO SHIMURA, KOZUE YAMAMOTO, KENTARO TAKEBE, BATMUNKH MUNKHBAT, and KIMIYOSHI TSUJI
Soluble HLA Class I and Class II in Japanese 171

NICHOLAUS ZAVAZAVA and WOLFGANG MÜLLER-RUCHHOLTZ
Quantitative and Biochemical Characterization of Soluble HLA Class I Antigens Shed by Cultured Human Cells 174

JAIME INOSTROZA, PAQUITA MUÑOZ, RAQUEL ESPINOZA, LUISA MILLAQUEO, PATRICIA DIAZ, LILY LEIVA, and RICARDO SORENSEN
Quantitation of Soluble HLA Class I Heterodimers and β_2-Microglobulin in Patients with Active Pulmonary Tuberculosis 179

TATSUO SHIMURA, MASAO HAGIHARA, KOZUE YAMAMOTO, KENTARO TAKEBE, BATMUNKH MUNKHBAT, KYOJI OGOSHI, TOSHIO MITOMI, YUKIO NAGAMACHI, and KIMIYOSHI TSUJI
Quantification of Serum-Soluble HLA Class I Antigens in Patients with Gastric Cancer 183

KAREN A. BAIER, JOYCE A. MEYER, BRENDA J. O'BRIEN, GLORIA FLORA-GINTER, TRACY L. MORRIS, THERESA PATTERSON, and CHRISTOPHER F. BRYAN
Solubilized HLA Class I Antigen Enzyme-Linked Immunoassay to Identify HLA-Typing Reagents 187

LYNN D. DeVITO-HAYNES, EWA JANKOWSKA-GAN, HANS W. SOLLINGER, STUART J. KNECHTLE, and WILLIAM J. BURLINGHAM
Monitoring of Kidney and Simultaneous Pancreas–Kidney Transplantation Rejection by Release of Donor-Specific, Soluble HLA Class I 191

KRIS K. SARIRIAN, PAOLA CONTINI, FRANCESCO INDIVERI, PETER A. GROSS, and CARLO RUSSO
Serum HLA Class I Levels in Elderly Humans: Utilization in Following the Response to Influenza Vaccine 202

SANDRA L. NEHLSEN-CANNARELLA, LINDA BUCKERT, OMAR FAGOAGA, JUDY FOLZ, SUSAN GRINDE, CATHY HISEY, ROBERT SCHMITT, and JANE ZAPPIA
Assessment of Three Methods of Evaluating Soluble Class I HLA Molecules in Cell Culture Supernatants and Serum Samples from the Second International Workshop on Soluble Human Leukocyte Antigens 210

CHRISTINE POULETTY, ISABELLE MERCIER, LINDA GLANVILLE, NATHALIE TOMAVO, LEV IGOUDIN, PHILIPPE POULETTY, and ROLAND BUELOW
Typing of a Panel of Soluble HLA Class I Antigens by Enzyme-Linked Immunosorbent Assay 218

F. CARL GRUMET, SHALINI KRISHNASWAMY, KLAUS SEE-THO, ELLEN FILVAROFF, and DEBRA D. HIRAKI
Soluble Form of an HLA-B7 Class I Antigen Specifically Suppresses Humoral Alloimmunization 228

DEBRA D. HIRAKI, KLAUS SEE-THO, ELLEN FILVAROFF, SHALINI KRISHNASWAMY, WILLIAM DE BELLO, BEHNAZ TAIDI-LASKOWSKI, and F. CARL GRUMET
Bioengineered Soluble HLA-B7: Genesis, Characterization, and Occurrence of Dimerization 235

BRITTA S. KUBENS, MONIKA PÄßLER, and HANS GROSSE-WILDE
Segregation Study of the Soluble 39-kD HLA Class I Heavy Chain 247

Number 4, August 1994

WAGNER WEIDEBACH, ANNA CARLA GOLDBERG, JOSELY M. CHIARELLA, LUIZA GUILHERME, RACHEL SNITCOWSKY, FULVIO PILEGGI, and JORGE KALIL
HLA Class II Antigens in Rheumatic Fever: Analysis of the DR Locus by Restriction Fragment-Length Polymorphism and Oligotyping 253

FRANCESCO PUPPO, SABRINA BRENCI, LORELLA LANZA, ORNELLA BOSCO, MARIA A. IMRO, MARCO SCUDELETTI, FRANCESCO INDIVERI, and SOLDANO FERRONE
Increased Level of Serum HLA Class I Antigens in HIV Infection: Correlation with Disease Progression 259

ADA FUNARO, GIULIO SPAGNOLI, MONICA MOMO, WALTER KNAPP, and FABIO MALAVASI
Stimulation of T Cells Via CD44 Requires Leukocyte-Function-Associated Antigen Interactions and Interleukin-2 Production 267

EDUARDO MARTÍNEZ-SORIA, VIKTOR STEIMLE, CHARLOTTE BURKHARDT, PASCALE BEFFY, JEAN-MARIE TIERCY, JÖRG T. EPPLEN, BERNARD MACH, and CLAUDE IRLÉ
An HLA-DRB α-Helix Motif Shared by DR11 and DR8 Alleles Is Implicated in the Pluriallelic Restriction of Pepetide-Specific T-Cell Lines 279

PIETER C. M. RES, LINDA STRUIJK, ANGELA LEOW, MOHAMMED R. DAHA, PETER C. VAN DEN ELSEN, and FERDINAND C. BREEDVELD
Inflamed Joints of Patients with Rheumatoid Arthritis Contain T Cells That Display in vitro Proliferation to Antigens Present in Autologous Synovial Fluid: Functional Analysis on the Basis of Synovial-Fluid-Reactive T-Cell Clones and Lines 291

JOSEF W. FAKLER, MARCUS SCHMITT-EGENOLF, SASIJIT VEJBAESYA, WOLF-HENNING BOEHNCKE, WOLFRAM STERRY, and THOMAS H. EIERMANN
Analysis of TAP2 and HLA-DP Gene Polymorphism in Psoriasis 299

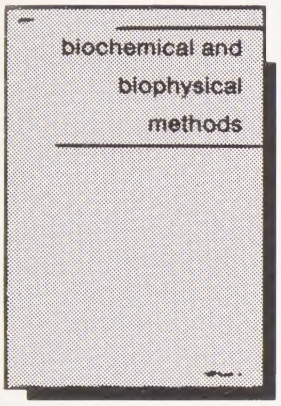
CLAUDIA GIACHINO, MARIA PAOLA ROCCI, GENNARO DE LIBERO, GIUSEPPINA ODERDA, NICOLETTA ANSALDI, and NICOLA MIGONE
An Alternative Approach to the Assessment of γδ T-Cell Clonality in Celiac Disease Intestinal Lesions Through cDNA Heteroduplex Analysis of T-Cell Receptor VJ Junctions 303

LORETTA TUOSTO, ROBERT W. KARR, XIN-TING FU, RICHARD R. OLSON, ENRICO CUNDARI, ENZA PICCOLELLA, ROBERT LECHLER, and GIOVANNA LOMBARDI
Different Regions of the N-Terminal Domains of the HLA-DR1 Influence Recognition of Individual Peptide–DR1 Complexes 312

4 outstanding METHODOLOGY JOURNALS

JOURNAL OF BIOCHEMICAL AND BIOPHYSICAL METHODS

New Methodology and Reviews

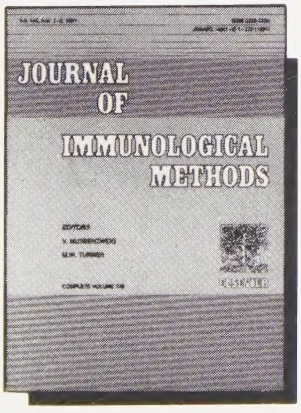


Managing Editor: **C.F. Chignell**, *Laboratory of Environmental Biophysics, National Institute of Environmental Health Sciences, Box 12233, Research Triangle Park, NC 27709, USA*
Associate Managing Editor: **S. Hjertén**, *Institute of Biochemistry, Biomedical Centre, University of Uppsala, Box 576, 751 23 Uppsala, Sweden*
Book Review Editor: **D. Westerlund**, *Uppsala, Sweden*

Publishes research papers dealing with the development of new methods or the *significant* modification of existing techniques to solve biological problems.

Published 6-weekly
ISSN 0165-022X

JOURNAL OF IMMUNOLOGICAL METHODS

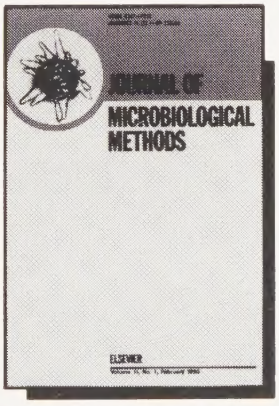


Editors: **V. Nussenzweig**, *Department of Pathology, New York University Medical Center, School of Medicine, 550 First Avenue, New York, NY 10016, USA* and **M.W. Turner**, *Department of Immunology, Institute of Child Health, University of London, 30 Guilford Street, London WC1N 1EH, UK*
Review Editor: **J.C. Unkeless**, *New York, NY, USA*
Software Notice Editor: **S.J. Merrill**, *Milwaukee, WI, USA*

Publishes review-type articles, research reports, and short communications on methods, including their development, applicability and present status.

Published 22 times per year
ISSN 0022-1759

JOURNAL OF MICROBIOLOGICAL METHODS

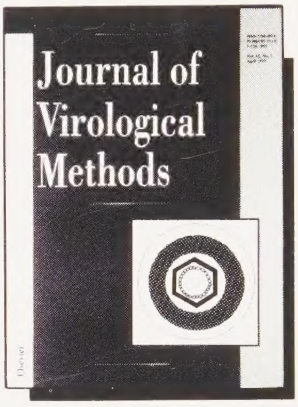


Editors-in-Chief: **D.C. White**, *Center for Environmental Biotechnology, 1015 Research Drive, Suite 300, Knoxville, TN 37932-2567, USA* and **C.J. Knowles**, *Biological Laboratory, University of Kent, Canterbury, Kent CT2 7NJ, UK*
Editorial Assistant: **S. White**

Publishes original articles, short concise communications, and review articles on novel methods or significant improvements to an existing method in all aspects of microbiology excluding virology. They include ecology and environmental areas, physiological and biochemical microbiology, biotechnology, clinical microbiology, and the use of computers and software.

Published 6-weekly
ISSN 0167-7012

JOURNAL OF VIROLOGICAL METHODS



Editor-in-Chief: **A.J. Zuckerman**, *The Royal Free Hospital School of Medicine, University of London, Rowland Hill Street, Hampstead, London NW3 2PF, UK*
Editorial Assistant: **T.C. Shennan**

Publishes original papers and invited reviews covering techniques on all aspects of virology.

Published 15 times per year
ISSN 0166-0934

ELSEVIER
An imprint of Elsevier Science

For further information and/or a complimentary copy, please contact one of the following addresses:

Elsevier Science B.V.
P.O. Box 1527, 1000 BM Amsterdam,
The Netherlands Fax: +31 (20) 5803-342

Customers in the USA and Canada:
Elsevier Science Inc.,
P.O. Box 882, Madison Square Station,
New York, NY 10159, U.S.A.
Tel: (212) 633-3750 Fax: (212) 633-3990

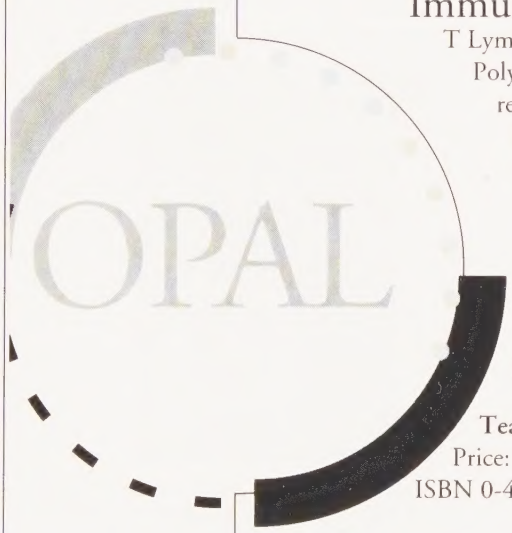
94/JC/083

Interested in Associative Learning?

OPAL is the answer! Open Programs for Associative Learning is an interactive system using computer technology and hypermedia principles to present a revolutionary approach to learning and teaching. OPAL modules provide the tools for intuitive and associative learning.

AVAILABLE in JULY: OPAL Module 3 **Immune Cells**

By H.-P. Hartung, University of Würzburg, Würzburg, Germany and X. Zhang, University of San Diego, San Diego, CA, USA



Immune Cells covers many topics including the following:
T Lymphocyte. B Lymphocyte. Macrophages. Central role of macrophages. Polymorphonuclear granulocytes. Structure of Immunoglobulin. B cell antigen receptor complex. Immunoglobulin production. Biological activities of Immunoglobulins (Human). Antibody response. Gene Families of Immunoglobulin. Antigen Presenting Cells and Antigen Presentation. Immunoglobulin Gene Recombination. Molecules involved in T cell-APC or Target cell Match. Antigen. Antigen-Antibody Binding. B cells Activation (T-dependent). B cells Activation (T-independent). Difference of Antigen Recognition between T and B cells. Antigen Presentation on MHC Class II Molecules. Antigen Presentation on MHC Class I molecules. (heat shock proteins, hsp).... and there's more!

Teacher Version, MS-Windows:
Price: Dfl 600.00 / US $ 342.75
ISBN 0-444-81732-8

Student Version, MS-Windows:
Price: Dfl. 120.00 / US $ 68.50
ISBN 0-444-81733-6

Teacher Version, Macintosh
Price: Dfl. 600.00 / US $ 342.75
ISBN 0-444-81734-4

Student Version, Macintosh:
Price: Dfl. 120.00 / US $ 68.50
ISBN 0-444-81735-2

Please note that Macintosh versions will not be available until December 1994.

Options: • Each Module can interact with other Modules • Interactive Animations • Sensitive Zones and Words • Navigation Tools.

Seeing is believing....so ask for your own preview disk with more details on a range of electronic products. (Specify MAC or MS-Windows.)

For more information on availability and price, please contact:

ELSEVIER SCIENCE B.V.
P.O. Box 1527,
1000 BM Amsterdam,
The Netherlands
Fax: (31) 20-5803342
e-mail: j.hobbelink@elsevier.nl

In the USA and Canada:
ELSEVIER SCIENCE Inc.
P.O. Box 945,
Madison Square Station,
New York, NY 10160-0757,
Fax: (212) 633-3990
e-mail: c.corcoran@elsevier.com

Recommended equipment:

IBM compatible version:
IBM 386 compatible computer, 2 Mb of free RAM, VGA screen, Microsoft Windows 3.00, 2 Mb of free space on the hard disk for each module. 3.5" disk HD. (Other formats available on request).

Macintosh version:
Mac SE/ 30 minimum, 2 Mb of RAM, 3 Mb of free space on the hard disk for each module.